

Title (en)

LOSS-OF-COOLANT ACCIDENT REACTOR COOLING SYSTEM

Title (de)

REAKTORKÜHLSYSTEM FÜR KÜHLMITTELVERLUSTSTÖRFALL

Title (fr)

SYSTÈME DE REFROIDISSEMENT DE RÉACTEUR EN CAS DE PERTE DE LIQUIDE DE REFROIDISSEMENT

Publication

**EP 3005374 A4 20170329 (EN)**

Application

**EP 14804740 A 20140528**

Priority

- US 201361828017 P 20130528
- US 2014039847 W 20140528

Abstract (en)

[origin: WO2014193992A1] A nuclear reactor cooling system with passive cooling capabilities operable during a loss-of-coolant accident (LOCA) without available electric power. The system includes a reactor vessel with nuclear fuel core located in. a reactor well. An in-containment water storage tank is fluidly coupled to the reactor well and holds an inventory of cooling water..During a LOCA event, the tank floods the reactor well with water. Eventually, the water heated by decay heat from the reactor vaporizes producing steam. The steam flows to an in- containment heat exchanger and condenses. The condensate is returned to the reactor well in a closed flow loop system in which flow may circulate solely via gravity from changes in phase and density of the water. In one embodiment, the heat exchanger may be an array of heat dissipater ducts mounted on the wall of the inner containment vessel surrounded by a heat sink.

IPC 8 full level

**G21C 15/18** (2006.01); **G21C 13/02** (2006.01)

CPC (source: EP)

**G21C 13/02** (2013.01); **G21C 15/18** (2013.01); **Y02E 30/30** (2013.01)

Citation (search report)

- [XAY] EP 0734028 A1 19960925 - SIEMENS AG [DE]
- [XAY] US 2013051511 A1 20130228 - WATSON RONALD C [US], et al
- See references of WO 2014193992A1

Designated contracting state (EPC)

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DOCDB simple family (publication)

**WO 2014193992 A1 20141204**; CN 105359219 A 20160224; CN 105359219 B 20171121; EP 3005374 A1 20160413; EP 3005374 A4 20170329; EP 3005374 B1 20200226; ES 2802975 T3 20210122; JP 2016520204 A 20160711; JP 6454692 B2 20190116; KR 101743911 B1 20170607; KR 20160014016 A 20160205

DOCDB simple family (application)

**US 2014039847 W 20140528**; CN 201480038608 A 20140528; EP 14804740 A 20140528; ES 14804740 T 20140528; JP 2016516794 A 20140528; KR 20157036754 A 20140528